



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/580,062

02/12/2007

Michael Hopkinson

70347

3537

85981

7590

03/15/2011

Syngenta Corp Protection, Inc.
410 Swing Road
Greensboro, NC 27409

EXAMINER

BROWN, COURTNEY A

ART UNIT

PAPER NUMBER

1617

MAIL DATE

DELIVERY MODE

03/15/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,062	HOPKINSON ET AL.	
	Examiner	Art Unit	
	COURTNEY BROWN	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-12 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-12 and 14-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Receipt/Status of Claims

This Office Action is in response to the amendment filed January 3, 2011. Claims 1-5,8-12 and 14-23 are pending in the application. Claims 6-7 and 13 have been cancelled. Claims 22 and 23 are newly added. Claims **1-5,8-12 and 14-23** are being examined for patentability.

. Withdrawn Rejections

Applicant's amendments and arguments filed January 3, 2011 are acknowledged and have been fully considered.

The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application. Claims 1-12 and 14-21 were rejected under 35 USC 103(a) as being unpatentable over Burke(US Patent 5,620,678) in view of both Cornes(US Patent 6,924,250) and Hudson (US Patent 5,704,961). This rejection is withdrawn in favor of a new rejection which provides a better motivation to arrive at the claimed invention.

New Rejection(s)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1617

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5,8-12 and 14-23 are newly rejected under 35 U.S.C. 103(a) as being unpatentable over Wichert et al. (US 6,890,889 B1, of record) in view of Cones (US 6,924,250 B2, of record) and further in view of Burke (US Patent 5,620,678, of record) and Ferrett et al. (US 2001/0051591 A1).

Applicant's Invention

Applicant claims a pesticide concentrate comprising: a) 2-85% by weight water; b) 5-90% by weight of at least one pesticide comprising mesotrione, an agriculturally acceptable salt of mesotrione or a metal chelate of mesotrione; c) an amount of an ionic nitrate salt additive effective in reducing corrosion of metal surfaces, said ionic nitrate salt additive comprising ammonium nitrate; and d) optionally, other formulation auxiliaries; wherein the ratio of component c) to component b) is less than or equal to 0.3:1.

Determination of the scope and the content of the prior art (MPEP 2141.01)

Wichert et al. teach herbicidal formulations comprising: (A) **mesotrione (2-[4-methylsulfonyl-2-nitrobenzoyl]-l, 3-cyclohexanedione)**; (B) about 0.3 to about 2.5

Art Unit: 1617

percent of crop oil concentrate or about 0.3 to about 2.5 percent of methylated seed oil; (C) about **0.5 to about 5% of a urea ammonium nitrate** on a volume to volume basis based on the total of (A), (B), (C), (D) and a diluent (abstract, limitation of instant claims **1,14 and 18**). Wichert et al. teach the use of **water** as the diluent component (column 2, line 32, and claims **1, 9 and 10** of instant application). Wichert et al. teach applying the aforementioned formulation to the locus of desired vegetation (column 3, lines 14-18, limitation of instant claim **12**) and the **use of an additional herbicide**, Acetochlor, formulated with mesotrione in a premix (column 2, line 58, claim **11** of instant application). Additionally, Wichert et al. teach the use of buffers to control pH (column 2, lines 32-41) as well as a non-ionic surfactant (limitation of instant claims **22 and 23**).

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

One difference between the invention of the instant application and that of Wichert et al. is that Wichert et al. does not expressly teach the use of 5-90% of a copper or zinc chelate of mesotrione (limitation of instant claims **1,3,8,15,16 and 20**) and the use of a further active selected from a herbicide, fungicide, insecticide, acaricide and nematocide (limitation of instant claim **11**). However, the use of 5-90% of a copper or zinc chelate of mesotrione was known in the prior art. For example, Cornes teaches that pesticide formulations comprising mesotrione may contain as little as about **0.5% to as much as 95%** or more in a synergistic combination of mesotrione and a second herbicide (column 4, lines 25-29, limitation of instant claim **11**). Cornes

Art Unit: 1617

teaches that, when used in the form of a chelate, mesotrione is most preferably used in the form of a **copper chelate** (column 2, lines 11-16). Cornes teaches that their synergistic combination could be formulated as an aerosol (column 5, lines 18-25).

A second difference between the invention of the instant application and that of Wichert et al. is that Wichert et al. does not expressly teach the claimed ratio of the ionic nitrate salt additive to the pesticide component wherein the ratio is less than or equal to 0.3:1 as well as an amount of water in the amount of 2-85% (limitation of instant claims **1,15 and 20**) However, Burke teaches various formulations of insecticidal aerosols . Specifically, Burke teaches a formulation comprising **1.25 % pyrethrum as an insecticide component, 0.300% Oleamide DEA as a corrosion inhibitor component** and 33.172 % deionized water (see Example IV, column 3, lines 50-60). Burke teaches that the aerosol insecticidal composition consists essential of organophosphate active insecticidal ingredient in the range of **0.01%-10%** (see claim 1 of Burke) and that the aerosol may include **sodium nitrate** as a corrosion inhibitor (see column 2, lines 32-34).

A third difference between the invention of the instant application and that of Wichert et al. is that Wichert et al. does not expressly teach that the pH of the composition is 6 or less (limitation of instant claims **2 and 17**). However, Hudson teaches that **corrosion protection is retained at lower pH values** when comparing compositions in a pH range of 6.8 and 7.2 which would result if the solutions were stored for long periods and the ammonia was allowed to vent (column 6, table 4).

A fourth and final difference between the invention of the instant application and that of Wichert et al. is that Wichert et al. does not expressly teach the use of an auxiliary in the form of an alkali metal or alkaline earth metal chloride (limitation of instant claims **4, 5, 22 and 23**). However, Ferrett et al. teach the preferred salts use of a calcium chloride, sodium chloride, potassium chloride salts in compositions and methods for safening crops subjected to a class of herbicidally active compounds ([0018]).

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Wichert et al. and Cones and use about 0.5% to as much as 95% or more in a synergistic combination of a copper chelate of mesotrione and a second herbicide. Cornes teaches that formulations comprising mesotrione may contain as little as about 0.5% to as much as 95% or more in a synergistic combination of mesotrione and a second herbicide (column 4, lines 25-29). Thus, one would be motivated to devise a composition that would provide a herbicidal synergistic combination as well as prevent corrosion. The claims would have been obvious because a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success. Therefore, the claimed invention as a whole would have been

Art Unit: 1617

prima facie obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by the cited reference.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Wichert et al. and Burke and use the claimed ratio of the ionic nitrate salt additive to the pesticide component wherein the ratio is less than or equal to 0.3:1 as well as an amount of water in the amount of 2-85%. Burke teaches that in water-solvent-based aerosol compositions, the corrosion inhibitor is added to protect the aerosol can from corrosion which would otherwise occur due to the can's contact with the water ingredient (column 3, lines 2-5). The claims would have been obvious because the substitution of one pesticide for another pesticide would have yielded predictable results to one of ordinary time skill in the art at the time of the invention. One of ordinary skill in the art would have been motivated to make such a substitution with the expectation of formulating a water-solvent-based aerosol composition that does not corrode the aerosol can during use. Therefore, the claimed invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by the cited reference.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Wichert et al. and Hudson and use pH of that is 6 or less. Hudson teaches that **corrosion protection is retained at lower pH values** when comparing compositions in a pH range of 6.8 and 7.2 which would result if the

Art Unit: 1617

solutions were stored for long periods and the ammonia was allowed to vent (column 6, table 4). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable pH ranges that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Wichert et al. and Ferrett et al. and use an auxiliary in the form of an alkali metal or alkaline earth metal chloride. Ferrett et al. teach that salts such as sodium chloride can provide the cations necessary for safening a plant from phytotoxic injury caused by at least one N-phosphonomethyl-glycine when the salt is applied to a locus of a plant for which safening is desired. One of ordinary skill in the art would be motivated to make this combination with the expected benefit of safening a plant from phytotoxic injury caused by mesitrione and/or mesitrione chelate compounds.

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of

Art Unit: 1617

ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Response to Arguments

Applicant's arguments, filed January 3, 2011, with respect to the rejection of claims 1-12 under 35 USC 103(a) as being unpatentable over Burke(US Patent 5,620,678) in view of both Cornes(US Patent 6,924,250) and Hudson (US Patent 5,704,961) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

No claims are allowed.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney A. Brown whose telephone number is 571-270-3284. The examiner can normally be reached on 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fereydoun Sajjadi can be reached on 571-272-3311. The fax phone

Art Unit: 1617

number for the organization where this application or proceeding is assigned is 571-273-8300.

Courtney A. Brown
Patent Examiner
Technology Center 1600
Group Art Unit 1617
/JANET L. EPPS -SMITH/
Primary Examiner, Art Unit 1633